

Remarks on *Bactra* STEPHENS,
with the description of two new species,
from Bahrein and Nepal
(Lepidoptera : Tortricidae : Olethreutinae)

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Summary

The paper contains general remarks on the genus *Bactra* STEPHENS, with the description of *B. (Chiloides) ochrographa* sp. n., from Nepal and *B. (C.) atopa* sp. n., from Bahrein ; furthermore a report on other *Bactra* material from Nepal and remarks on *B. (B.) «lacteana»* CARADJA are given.

The geopoliite genus *Bactra* STEPHENS, 1834, is richly represented in tropical countries, but is less numerous in the Palaearctic Region. So the discovery of two new species from the periphery of the Region is very welcome. It is known that the species of this genus are extremely similar, both in colour and markings, so that as a rule it is not possible to identify them with superficial characters only. On the other hand, the male genitalia, and, especially in the subgenus *Chiloides* BUTLER, 1881 to which both new species belong, also the genitalia of the females, are specifically very characteristic. The valva, aedeagus, and sterigma of this, the largest, subgenus of *Bactra*, comprising most tropical species, are very plastic. The valva can be divided into three parts : the valva proper, a large lobe-like sacculus, and a separate valvula, unique in the family. For this reason the genus group Bactrini FALKOVITCH, 1962 has been erected. This has recently been designated as the basic group of the subtribe Gatesclarkeanini DIAKONOFF, 1973 (HORAK & BRAUN, in press).

The species of *Bactra* do not come to light traps too easily and are best collected by netting during the day-time, when they fly low over the vegetation in swampy places, abounding in *Juncus*. This habit and perhaps their modest and uniform appearance may be the reason that they are often overlooked. More extensive specialized collecting promises the discovery of many new species in the tropics.

As a contrast, the few Palaearctic species, chiefly of the subgenus *Bactra* STEPHENS, are extremely common and are available in large series. An

elaborate survey of this material revealed to the author (DIAKONOFF, 1962), the existence of minor variation of the genitalia in the nominate subgenus that can be confusing and hamper identification, as is illustrated by the case of *Bactra* (*Bactra*) «*lacteana*» CARADJA, presented at the end of this paper.

In former years the superficial similarity of species has been responsible for the creation of many synonyms, *Bactra* being one of the most eloquent examples of the necessity to study the genitalia in Tortricidae. Having sorted out much of the confusion, several species appeared to possess an unexpectedly wide distribution, e.g., *B. (B) bactrana* (KENNEL, 1901): from India to the Canary Islands; *B. (C.) venosana* (ZELLER, 1847): almost geopolite; *B. (C.) philoherda* DIAKONOFF, 1964: Southern America and Afrotropics, etc. (DIAKONOFF, 1956, 1964; GIBEAUX, in litt.).

Besides the description of two new species, the present paper is a report on the material of *Bactra* from Nepal in the Zoologische Staatssammlung München, collected and kindly sent for identification by Dr. W. DIERL, and remarks on «*lacteana*». The figure is by Mr. A. C. M. VAN DIJK, The Hague, and the photographs are by the author; for their financing he is indebted to the Uyttenboogaart-Eliassen Stichting of Amsterdam and to the Director of the Leiden Museum, respectively.

***Bactra (Chiloides) ochrographa* sp. n. (Figs 1, 5)**

ὠχρός = pale, γράφω = to write

HOLOTYPE : ♀, Nepal, Province No. 3 East, Jiri, 2500 m, 13.VIII.1964 (W. DIERL leg.), GS 6926. In the Zoologische Staatssammlung München.

DIAGNOSIS : ♀ 16 mm. Head light ochreous, antenna fulvous. Palpus broad and thick, median segment truncate, apical segment concealed; light ochreous, a couple of blackish dots towards dorsal and ventral edge and slight brownish suffusion on median segment; thorax fuscous-brownish, patagia and tegulae slightly paler. Abdomen ochreous-fuscous.

Forewing oblong-suboval, moderately dilated, costa gently curved, more so at base and apex, latter obtusely pointed, termen slightly rounded, oblique; pale ochreous, with fine obliquely-transverse striation, tawny along costa towards apex; area between cell and termen thinly striated with brownish lines; costa with about 20 thin transverse lines, dark brown, becoming longer apically and then continuing across upper quarter of wing as thin tawny strigulae; a slender subcostal streak of pale ochreous ground colour from base to middle, thence gradually dilated, whitish-ochreous, slightly curving upwards, to costa before apex, containing two or three thin longitudinal brown lines; a moderate transverse pale spot beyond discoidal vein; lower half of cell and entire dorsum from beyond base to end of cell suffused deep

tawny ; above and beneath fold two series of indistinct and irregular purplish marks, fading towards middle of wing ; a roundish area of ochreous-whitish ground colour between veins 2-5, reaching halfway towards termen ; a narrow creamy-coloured marginal band from tip of costa to tornus, at apex and along termen preceded by a strongly dentate tawny-brown band, dentations cutting creamy band into a series of small blotches ; a series of dark spots along dorsal margin of wing. Cilia fuscous with two pale lines.

Hindwing pale ochreous-grey, denser grey towards apex. Cilia creamy-grey with a suffused greyish subbasal band.

FEMALE GENITALIA : Sixth and seventh segments forming together a sclerotized cone, with upper edge simple and concave, lower edge straight, emarginate in middle, emargination flanked by short, slender, obtuse apophyses anterior. Ostium wide, lamella postvaginalis represented by a circular sclerotized ridge around ostium, open below. Colliculum and ostium fused, so as to form a long, partly flattened sclerotized tube, with darker, thickened walls ; deeply concave at opening, more weakly sclerotized towards ductus bursae, irregularly wrinkled and partly compressed. Ductus bursae short, membranous. Corpus bursae pear-shaped, thin-walled, signum of usual *Bactra* shape.

REMARKS : A robust species of medium size and typical *Bactra* facies. It belongs to the chiefly Indian *B. (C.) copidotis* MEYRICK, 1909 group of species, of which it is a rather advanced novel member. Superficially it might be taken for *B. (C.) venosana* ZELLER, demonstrating how little the external aspect of *Bactra* species can be trusted for identification.

Bactra (Chiloides) atopa sp. n. (Figs 2-4)

ἄτοπος = strange, out of place

HOLOTYPE : ♀, Bahrein, "Adari. spr.", 25.X.1953 (D. M. RUSH leg.), GS 3808. In the Landessammlungen für Naturkunde, Karlsruhe (AMSEL collection), Nr. 213.

DIAGNOSIS : ♀ 11.5 mm. Head whitish-ochreous (rubbed). Antenna fuscous. (Palpi missing). Thorax pale ochreous-yellow. Abdomen whitish.

Forewing oblong-suboval, not dilated beyond middle, costa gradually curved throughout, apex pointed, termen gently concave, strongly oblique. Ochreous-whitish, markings orange-ochreous. Costa with blackish-brown spots, the largest at 1/2, oblong, preceded by about seven small oblique marks and followed by six. The first two of the latter are round dots, the remainder becoming longer, fasciate and more distinct apically, the sixth a large black apical spot. Basal third of wing suffused with pale ochreous-orange, posterior edge rather well defined, vertical, in middle suffused with

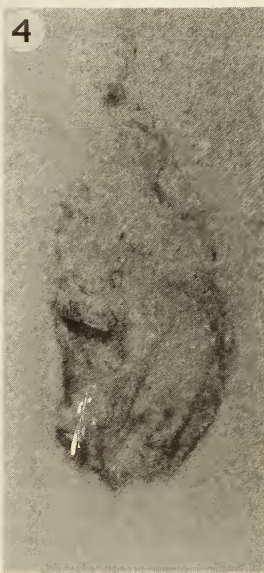
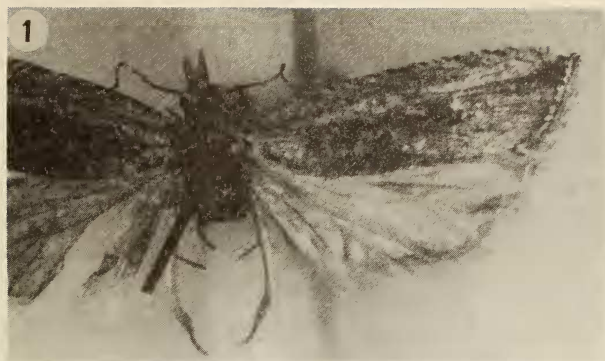


Fig. 1. *Bactra (Chiloides) ochrographa* sp.n., ♀, holotype. Fig. 2. *B. (C.) atopa* sp.n., ♀, holotype. Fig. 3. The same, ovipositor and sterigma. Fig. 4. The same, bursa copulatrix.



Fig. 5. *B. (C.) ochrographa* sp.n., female genitalia.

deeper orange, with a small quadrate brownish-orange spot below fold ; this preceded by a faint ferruginous streak, running below fold to middle of base of wing. An oblique, straight fascia from median costal mark almost reaching tornus, brownish-orange-fulvous, its upper half faint and suffused, lower half dilated and well defined ; an ascending branch, running halfway towards apex in middle of wing, forming a V-shaped discal mark. A whitish median streak from 1/3 to costa before apex (the usual pale *Bactra* streak), termen whitish ; dorsum from beyond base with partly interrupted series of small blackish dots. (Cilia lacking).

Hindwing whitish with a faint greyish dusting posteriorly ; long silvery hairs along entire dorsum. Cilia concolorous.

FEMALE GENITALIA : Sterigma a sclerotized transverse plate, with weak upper edge, deeply incised in middle, incision becoming a median vertical ridge ; lower edge of sterigma with hyaline margin, angulate in middle, rounded at the sides. Lamella postvaginalis represented by a moderate weakly sclerotized collar, above this a small dark triangular beak-like projection from a round punctulate wart. Colliculum sclerotized, slender, exceeding sterigma above and below, upper edge elegantly excised, undulate, with acute sides and a deep median split, reaching to middle of sterigma ; lower end of colliculum obliquely truncate to the left. Ductus bursae rather wide, membranous, weak. Bursa copulatrix and signum of the usual shape.

REMARKS : A small species with pointed forewings and with quite unusual markings. The female genitalia are very close to those of *B. (C.) angulata* DIAKONOFF, 1956, a species with the usual *Bactra* aspect, from tropical Southern Asia (type locality : Eastern Borneo), also occurring in Central Java, Northern Moluccan Islands and the Pacific (Palau Is.). The present species is recognizable at once by the oblique transverse fascia and so, together with *B. (C.) copidotis* MEYRICK from India which is also distinctly marked, is the second *Bactra* species that can be recognized externally without dissection.

***Bactra (Chiloides) venosana* (ZELLER)**

Plexopteris venosana ZELLER, 1847, Isis von Oken : 738.

Aphelia venosana : HERRICH-SCHÄFFER, 1849, Syst. Bearb. Schm. Eur., 4 : 244.

Bactra venosana : REBEL, in STAUDINGER & REBEL, 1901, Catal. Lep. Pal. Faun., 2 : 113, no. 2019. — KENNEL, in SPULER, 1910, Schm. Eur., 2 : 273. — KENNEL, 1916, Pal. Tortric. : 472, pl. 18 fig. 73. — CLARKE, 1976, Insects Micronesia, 9 (1) : 69, fig. 28, pl. 6 fig. d.

Bactra (Chiloides) venosana : DIAKONOFF, 1956a, Zool. Verh. Leiden, 29 : 33, figs. 31-32. — 1956b, Verh. Naturf. Ges. Basel, 67 (1) : 68. — 1956c, Ent. Ber.

A'dam, 16 : 147. — 1959, Bijdr. Dierk., 29 : 184, fig. 4. — 1963, Annl's Nat. Hist. Mus. Wien, 66 : 474. — 1964, Zool. Verh. Leiden, 70 : 35. — 1968 (1967), U.S. Nat. Mus. Bull., 275 : 63-64, 302, 420, fig. 336. — ZIMMERMAN, 1978, Ins. Hawaii, 9 : 552, figs. 345-350, 352. — KAWABE, 1982, Moths of Japan, 1 : 92 ; 2 : 166, pl. 22 fig. 7, pl. 282, pl. 290 fig. 9, Cat. no. 244. — DIAKONOFF, 1972, Zool. Verh. Leiden, 193 : 73-74. — 1983, Fauna Saudi Arabia, 5 : 272.

Bactra truculenta MEYRICK, 1909, J. Bombay Nat. Hist. Soc., 19 : 586. — 1922, Exotic Microlep., 2 (11) : 521. — MEYRICK, in CARADJA, 1934, Iris, 48 : 33. — CARADJA & MEYRICK, 1935, Mater. chines. Prov. : 57. — FLETCHER & GOSH, 1920, Proc. 3rd Ent. Meet. : 363, 367, 394. — T. B. FLETCHER, 1921, Mem. Agric. Ind., Ent., 6 : 53. — SWEZEY, 1927, Proc. Haw. Ent. Soc., 6 : 349. — DIAKONOFF, 1950, Bull. Brit. Mus., Ent., 1 (4) : 289, pl. 5 fig. 16, pl. 7 fig. 30 (synon.). — 1956, Verh. Naturf. Ges. Basel, 67 : 60. — CLARKE, 1955, Catal. Meyrick's Types, 1 : 319. — *Idem*, 3 : 308, pl. 453 figs. 4-4b. — BRADLEY, 1961, Bull. Brit. Mus., Ent., 10 : 122.

Bactra (Chiloides) truculenta : DIAKONOFF, 1956a, Zool. Verh. Leiden, 29 : 27, figs. 28-30 (syn. of *venosana*; econom. lit.). — 1956b, Verh. Naturf. Ges. Basel, 67 : 60. — 1959, Bijdr. Dierk., 29 : 183. — Zool. Verh. Leiden, 70 : 35. ZIMMERMANN, 1978, Ins. Hawaii, 9 : 552, figs. 345-350, 352.

Bactra scythropa MEYRICK, 1911, Proc. Linn. Soc. N.S. Wales, 36 : 254. — DIAKONOFF, 1950, Bull. Brit. Mus., Ent., 1 (4) : 289. — CLARKE, 1976, Ins. Micronesia, 9 (1) : 69.

Bactra geraropa MEYRICK, 1931, Exotic Microlep., 4 (5) : 147. — DIAKONOFF, 1950, Bull. Brit. Mus., Ent., 1 (4) : 287, 289. — CLARKE, 1958, Catal. Meyrick's Types, 3 : 308, pl. 152 figs. 4-4b.

Bactra banesii GOZMÁNY, 1960, Annl's Hist. Nat. Mus. Hung., 52 : 416.

DISTRIBUTION : SE Asia, Sri Lanka, India, Thailand, Andaman Is., Indonesia, Philippines, Hawaii, S. Marianas Is., Truk, Ponape, Kusaie, S. Caroline Is., S. China, Taiwan, Japan, Fiji, N. Africa, Asia Minor, Saudi Arabia, S. and S.C. Europe (absent in European USSR and Great Britain).

HOST PLANTS : *Cyperus rotundus* ; *Kyllingia brevifolia*, *K. macrocephala* (last two in Hawaii).

MATERIAL : Nepal, Kathmandu-Chauni, 1400 m, 22.V.-29.VII.1967, GS 10909, '10, '11, '12, '27, '28, '35, '40 : 5♂, 3♀. — Kathmandu Valley, Godavari, 1000-1800 m, 7.VIII.1967, GS 10929♀. (Leg. DIERL, FORSTER, SCHACHT).

Bactra (Nannobactra) minima MEYRICK

Bactra minima MEYRICK, 1909, J. Bombay Nat. Hist. Soc., 19 : 586. — DIAKONOFF, 1950, Bull. Brit. Mus., Ent., 1 (4) : 288, pl. 6 fig. 25. — BRADLEY, 1961, *Ibidem*, 10 : 122. — SANKARAN & SRINATH, 1966, Commonwealth Inst. Biol. Contr., Techn. Bull., 7 : 140. — CLARKE, 1976, Ins. Micronesia 9 (1) : 63.

Bactra (Nannobactra) minima: DIAKONOFF, 1956, Zool. Verh. Leiden, 29 : 55, figs. 52-63. — 1959, Bijdr. Dierk., 29 : 186. — 1964, Zool. Verh. Leiden, 70 : 77. — 1983, Fauna Saudi Arabia, 5 : 274, figs. 60-61, pl. 2 fig. 26.

Bactra phaeopis MEYRICK, 1911, Proc., Linn. Soc. N. S. Wales, 36 : 254. DIAKONOFF, 1964, Zool. Verh. Leiden, 70 : 77. — 1959, Bijdr. Dierk., 29 : 183. — CLARKE, 1976, Ins. Micronesia, 9 (1) : 63, 66.

Bactra microptila MEYRICK, 1927, Ins. Samoa, 3, Lepid., 2 : 75. — DIAKONOFF, 1959, Bijdr. Dierk., 29 : 186 (synon.). — CLARKE, 1976, Ins. Micronesia, 9 (1) : 63.

Bactra anpingiana STRAND, 1920, Arch. Naturgesch., 84 (A) 12 : 192. — DIAKONOFF, 1964, Zool. Verh. Leiden, 70 : 77, 79 (synon.).

DISTRIBUTION : India, Sri Lanka, Barneryn I., Sudest I., Guam, British Solomon Is., New Georgia, S. Mariana Is., Truk, Ponape, S. Caroline Is.

HOST PLANT : *Cyperus rotundus*.

MATERIAL : Nepal, Kathmandu — Chauni, 1400 m, 29.V-12.VIII.1961, 1964, 1967. — Prov. No. 2 East, Jiri, 2000 m, 22.VII — 14.VIII.1967. GS 10931-10934, 10936-37.

REMARK : CLARKE (1976 : 66) considers that *phaeopis* may be a distinct species ; more material is needed to prove this.

Bactra (Bactra) furfurana (HAWORTH) forma *lacteana* CARADJA

Tortrix furfurana HAWORTH, 1811, Lep. Brit., 466.

Bactra furfurana : WILKINSON, 1859, Brit. Tortr. : 147 (The very long list of references of this highly common species may be omitted here).

Bactra lanceolana var. *lacteana* CARADJA, 1916, Iris 1916 : 62.

Bactra gozmaniana TOLL, 1958, Annl. Zool. Polon. 17 : 65, figs. 1, 2 ; pl. 3 figs. 1, 5 ; pl. 3, fig. 8. — DIAKONOFF, 1959, Bijdr. Dierk., 29 : 186. — 1959, Zool. Verh. Leiden, 59 : 31, figs. 1f, 8, 26-28, 31-32, pl. 5, 10-12 fig. 67, pl. 15 fig. 78. — JÄCKH, 1950, Bombus, 2 : 71. — HANNEMANN, 1961, Tierw. Deutschl., 48 (1) : 106, no. 408, fig. 408, pl. 22 fig. 12.

Bactra (Bactra) lacteana : DIAKONOFF, 1962, Zool. Verh. Leiden, 59 : 45, pl. 18. — 1964, *Ibidem*, 70 : 20.

Bactra (Bactra) furfurana Type II : DIAKONOFF, 1962, Zool. Verh. Leiden, 29 : 7, fig. 6 (2).

Bactra (Bactra) furfurana : DIAKONOFF, in RAZOWSKI, 1972, Acta Zool. Cracov., 16 : 144 figs. 23-24 (syn. *lacteana* CARADJA, *longinqua* DIAKONOFF).

After a laborious study of the variability of the genitalia, within *B. (B) furfurana* with regard to «*lacteana*» and having studied considerable material from Mongolia (DIAKONOFF, in RAZOWSKI, 1972 : 147) the author finally

came to the following conclusion. This is cited here, because in its original place it seems to have escaped attention :

“After due consideration I have abstained from separating the present population, originating from various altitudes and localities, as some subspecies or form of either *furfurana* or *lacteana*. On the contrary, I believe that it provides the long-expected proof of the fact that «*Bactra lacteana* CAR.» of which «*Bactra gozmanyana* TOLL» is a synonym, does not represent a distinct species, but is a form of *Bactra furfurana* (HAWORTH). In Western and Central Europe, where the extremes of these two forms meet and occur together, their separation (at least of the males) is more or less feasible. But when considered over the entire large area of distribution of *B. furfurana*, the differences between the two “forms” vary to such an extent that this separation becomes highly hazardous and consequently description of a series of intermediate forms becomes necessary — as, e.g., the form *Bactra furfurana kurenzovi* DIAK.

I am satisfied now that creation of more such intermediate forms would confound the issue and propose therefore to unite the present assemblage into a single species, *Bactra (B.) furfurana* (HAWORTH).”

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